The

BCP: 100 05/15/07 3382-64472-01 697024 303514.01

**PATENT** 

AN 18 2001 IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

nre application of: Mukerjee et al.

**Application No. 10/622,378** 

**Filed:** July 18, 2003

Confirmation No. 4367

For: ADVANCED BI-DIRECTIONAL

PREDICTIVE CODING OF VIDEO

**FRAMES** 

Examiner: Nhon Thanh Diep

Art Unit: 2621

Attorney Reference No. 3382-64472-01

MAIL STOP AMENDMENT COMMISSIONER FOR PATENTS P.O. BOX 1450 ALEXANDRIA, VA 22313-1450

#### **CERTIFICATE OF MAILING**

I hereby certify that this paper and the documents referred to as being attached or enclosed herewith are being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: MAIL STOP AMENDMENT; COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450 on the date shown below.

Attorney or Agent for Applicant(s)

Date Mailed

12, 2007

# INFORMATION DISCLOSURE STATEMENT PURSUANT TO 37 C.F.R. § 1.97(b)(3)

Listed on the accompanying form PTO-1449 and enclosed herewith are several English-language and/or non-English-language documents. Applicants respectfully request that these documents be listed as references cited on the issued patent.

Copies of United States patents and United States published patent applications do not have to be provided to the Patent Office (37 C.F.R. 1.98(a)(2)(ii)). Copies of unpublished U.S. applications do not have to be provided, as long as the application is available on PAIR, as this requirement of 37 C.F.R. § 1.98(a)(2)(iii) has been waived by the United States Patent and Trademark Office pursuant to the Official Gazette Notice on October 19, 2004 (1287 OG 163). Applicants will provide copies of such patents or applications upon request.

Applicants filed this Information Disclosure Statement ("IDS") before the mailing date of a first Office action on the merits. As a result, no fee should be required to file this IDS.

However, if the Patent Office determines that a fee is required for Applicants to file this IDS, please charge any such fees, or credit overpayment, to Deposit Account No. 02-4550. A duplicate copy of this Information Disclosure Statement is enclosed.

The filing of this IDS shall not be construed to be an admission that the information cited in the statement is, or is considered to be, prior art or otherwise material to patentability as defined in 37 C.F.R. §1.56.

Respectfully submitted,

KLARQUIST SPARKMAN, LLP

One World Trade Center, Suite 1600

121 S.W. Salmon Street Portland, Oregon 97204

Telephone: (503) 595-5300 Facsimile: (503) 595-5301

cc: Docketing

Kyle B. Rinehart

Registration No. 47,027

# RMATION DISCLOSURE STATEMENT BY APPLICANT

Attorney Docket Number 3382-64472-01

Application Number 10/622,378

Filing Date July 18, 2003

First Named Inventor Mukerjee

Art Unit 2621

Examiner Name Nhon Thanh Diep

MAY 1 8 2007

### **U.S. PATENT DOCUMENTS**

Copies of The Patent documents do not need to be provided, unless requested by the Patent and Trademark Office. For patents, provide the patent number and the issue date. For published U.S. applications, provide the publication number and the publication date. For unpublished pending

patent applications, provide the application number and the filing date.

| Examiner's Initials* | Cite No.<br>(optional) | Number       | Publication Date | Name of Applicant or Patentee |
|----------------------|------------------------|--------------|------------------|-------------------------------|
|                      |                        | 5,260,782    | 11.9.1993        | Hui                           |
|                      |                        | 5,786,860    | 7.28.1998        | Kim et al.                    |
|                      |                        | 5,822,541    | 10.13.1998       | Nonomura et al.               |
|                      |                        | 6,175,592    | 1.16.2001        | Kim et al.                    |
|                      |                        | 6,636,565    | 10.21.2003       | Kim                           |
|                      |                        | 6,704,360    | 3.9.2004         | Haskell et al.                |
|                      |                        | 6,873,657    | 3.29.2005        | Yang et al.                   |
|                      |                        | 6,999,513    | 2.14.2006        | Sohn et al.                   |
|                      |                        | 7,154,952    | 12.26.2006       | Tourapis et al.               |
|                      |                        | 2001/0040926 | 11.15.2001       | Hannuksela et al.             |
|                      |                        | 2004/0146109 | 7.22.2004        | Kondo et al.                  |
|                      |                        | 2006/0280253 | 12.14.2006       | Tourapis et al.               |

### FOREIGN PATENT DOCUMENTS

| Examiner's<br>Initials* | Cite No.<br>(optional) | Country | Number          | <b>Publication Date</b> | Name of Applicant or Patentee |
|-------------------------|------------------------|---------|-----------------|-------------------------|-------------------------------|
|                         |                        | Europe  | EP 0 782 343    | 7.2.1997                | Matsushita Electric Indust.   |
|                         |                        | Europe  | EP 0 863 673 A1 | 9.9.1998                | General Instrument            |
|                         |                        | Europe  | EP 0 863 674    | 9.9.1998                | General Instrument            |

| ļ | EXAMINER   |
|---|------------|
|   | SIGNATURE: |

<sup>\*</sup> Examiner: Initial if reference considered, whether or not in conformance with MPEP 609. Draw line through cite if not in conformance and not considered. Include copy of this form with next communication to applicant.

**DATE** 

**CONSIDERED:** 

### INFORMATION DISCLOSURE STATEMENT BY APPLICANT

| Attorney Docket Number | 3382-64472-01   |
|------------------------|-----------------|
| Application Number     | 10/622,378      |
| Filing Date            | July 18, 2003   |
| First Named Inventor   | Mukerjee        |
| Art Unit               | 2621            |
| Examiner Name          | Nhon Thanh Diep |

| FOREIGN PA | ATENT DO | CUMENTS |
|------------|----------|---------|
|------------|----------|---------|

| TOTALIGN TATENT DOCUMENTS |                        |  |               |                         |                               |  |  |
|---------------------------|------------------------|--|---------------|-------------------------|-------------------------------|--|--|
| Examiner's Initials*      | Cite No.<br>(optional) | Country  | Number        | <b>Publication Date</b> | Name of Applicant or Patentee |  |  |
|                           |                        | Europe   | EP 0 944 245  | 9.22.1999               | ST Microelectronics           |  |  |
|                           |                        | Europe   | EP 1 006 732  | 7.6.2000                | Mitsubishi                    |  |  |
|                           |                        | Great Britain  | GB 2,328,337  | 2.17.1999               | Dae Woo Electronics           |  |  |
|                           |                        | Japan  | JP 11 136683  | 5.21.1999               | Matsushita Electric Indust.   |  |  |
|                           |                        | Russia   | RU 2182727 C2 | 5.20.2002               | Dvorkovich et al.             |  |  |
| Examiner's<br>Initials*   | Cite No.<br>(optional) |  | OTI           | HER DOCUMENTS           | <b>S</b>                      |  |  |
|                           |                        | Chalidabhongse et al., "Fast motion vector estimation using multiresolution spatiotemporal correlations," IEEE Transactions on Circuits and Systems for Video Technology, pp. 477-488 (June 1997).       |               |                         |                               |  |  |
|                           |                        | Joint Video Team (JVT) of ISO/IEC MPEG and ITU-T VCEG, "Study of Final Committee Draft of Joint Video Specification," JVT-F100, Awaji Island, 242 pp. (December 2002).                                   |               |                         |                               |  |  |
|                           |                        | Kossentini et al., "Predictive RD Optimized Motion Estimation for Very Low Bit-rate Video Coding," IEEE J. on Selected Areas in Communications, vol. 15, no. 9 pp. 1752-1763 (December 1997)             |               |                         |                               |  |  |
|                           |                        | Lainema et al., "Skip Mode Motion Compensation," Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG (ISO/IEC JTC1/SC29/WG11 and ITU-T SG16 Q.6), Document JVT-C027, 8 pp. (May 2002).                   |               |                         |                               |  |  |
|                           |                        | Panusopone et al., "Direct Prediction for Predictive (P) Picture in Field Coding mode," Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG, Document JVT-D046, 8 pp. (July 2002).                       |               |                         |                               |  |  |
|                           |                        | Reed et al., "Constrained Bit-Rate Control for Very Low Bit-Rate Streaming-Video Applications," IEEE Transactions on Circuits and Systems for Video Technology, Vol. 11, No. 7, pp. 882-889 (July 2001). |               |                         |                               |  |  |
|                           |                        | Schwarz et al., "Tree-structured macroblock partition," ITU-T SG16/Q.6 VCEG-O17, 6 pp. (Dec. 2001).  |               |                         |                               |  |  |

| EXAMINER   | DATE        |
|------------|-------------|
| SIGNATURE: | CONSIDERED: |

<sup>\*</sup> Examiner: Initial if reference considered, whether or not in conformance with MPEP 609. Draw line through cite if not in conformance and not considered. Include copy of this form with next communication to applicant.

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

| Attorney Docket Number | 3382-64472-01   |  |
|------------------------|-----------------|--|
| Application Number     | 10/622,378      |  |
| Filing Date            | July 18, 2003   |  |
| First Named Inventor   | Mukerjee        |  |
| Art Unit               | 2621            |  |
| Examiner Name          | Nhon Thanh Diep |  |

| Examiner's<br>Initials* | Cite No.<br>(optional) | OTHER DOCUMENTS   |
|-------------------------|------------------------|---|
| ·                       |                        | Schwarz et al., "Core Experiment Results On Improved Macroblock Prediction Modes," Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG (ISO/IEC   |
|                         |                        | JTC1/SC29/WG11 and ITU-T SG16 Q.6), Document JVT-B054, 10 pp. (JanFeb. 2002).   |
|                         |                        | Tourapis et al., "Direct Prediction for Predictive (P) and Bidirectionally Predictive (B) frames in Video Coding," Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG  |
|                         |                        | (ISO/IEC JTC1/SC29/WG11 and ITU-T SG16 Q.6), Document JVT-C128, 11 pp. (May 2002).  |
|                         |                        | Tourapis et al., "Motion Vector Prediction in Bidirectionally Predictive (B) frames with regards to Direct Mode," Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG (ISO/IEC JTC1/SC29/WG11 and ITU-T SG16 Q.6), Document JVT-C127, 7 pp. (May 2002). |
|                         |                        | Tourapis et al., "Timestamp Independent Motion Vector Prediction for P and B frames with Division Elimination," Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG (ISO/IEC JTC1/SC29/WG11 and ITU-T SG16 Q.6), Document JVT-D040, 18 pp. (July 2002). |
|                         |                        | Tourapis et al., "Performance Comparison of Temporal and Spatial Direct mode," Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG (ISO/IEC JTC1/SC29/WG11 and ITU-T SG16 Q.6), Document JVT-E026, 7 pp. (October 2002).                                |
|                         |                        | Wiegand et al., "Motion-compensating Long-term Memory Prediction," Proc. Int'l Conf. on Image Processing, 4 pp. (October 1997).   |
|                         |                        | Wiegand et al., "Long-term Memory Motion Compensated Prediction," IEEE Transactions on Circuits & Systems for Video Technology, vol. 9, no. 1, pp. 70-84 (February 1999).   |
|                         |                        | Wien, "Variable Block-Size Transforms for Hybrid Video Coding," Dissertation, 182 pp. (February 2004).  |

| EXAMINER<br>SIGNATURE: | DATE<br>CONSIDERED: |  |
|------------------------|---------------------|--|
|------------------------|---------------------|--|

<sup>\*</sup> Examiner: Initial if reference considered, whether or not in conformance with MPEP 609. Draw line through cite if not in conformance and not considered. Include copy of this form with next communication to applicant.

